

LCQ11: West Rail Line of the MTR Corporation Limited

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Following is a question by the Hon Cheung Hok-ming and a written reply by the Secretary for Transport and Housing, Ms Eva Cheng, at the Legislative Council meeting today (October 27):

Question:

It was reported a few months ago that cracks and water seepage were found in the bridge columns supporting the rail tracks of the West Rail Line of the MTR Corporation Limited (MTRCL), which had been commissioned for less than seven years. In this connection, will the Government inform this Council whether:

(a) MTRCL has conducted a comprehensive and detailed inspection of all the bridge columns for the West Rail viaducts to find out if they are of the same conditions described above; if it has, of the specific inspection results; if not, the reasons for that;

(b) it has assessed the causes for the cracks and water seepage found in those bridge columns, and whether the persistent recurrence of such conditions will affect the structure of these bridge columns; and

(c) it has used ultrasound or other high-tech tools to inspect the corrosion of steel bars in and the concrete density of those problematic bridge columns; if it has, of the results; if not, what methods were adopted by MTRCL for assessing the structural safety of bridge columns?

Reply:

President,

(a) and (b) The section of the West Rail Line between Tuen Mun and Nam Cheong Stations was constructed by the Kowloon-Canton Railway Corporation (KCRC) and commenced operation in December 2003. Following the Rail Merger, the MTR Corporation Limited (MTRCL) took over the operation and maintenance of the KCR railway network, including the West Rail Line.

The Buildings Department (BD) is responsible for the monitoring of the buildings and building works managed by the MTRCL, including the viaduct piers along the West Rail Line. MTRCL is required to regularly inspect and maintain its buildings and building works to ensure railway safety.

MTRCL maintains its facilities, systems and trains in accordance with an established maintenance management system. This system also applies to the maintenance of the facilities of the KCR network to ensure safe and smooth railway operation.

According to MTRCL, the corporation has been conducting regular structural inspections of the 409 viaduct piers of the West Rail Line. This includes visual inspection once a year and hammer tapping test once every five years to examine the quality of concrete and to check for any concrete spalling. BD accepts that these inspection methods are commonly adopted by the industry.

When BD became aware of the reports on the cracks at one of the viaduct piers located between Yuen Long and Long Ping Stations of the West Rail Line on August 20, 2010, BD immediately contacted MTRCL to find out about the situation. A joint site inspection with MTRCL was conducted on August 23, 2010. During the inspection, minor cracks were found at that viaduct pier but there was no safety problem on the overall structure.

According to MTRCL's records, KCRC had found minor

cracks at 24 viaduct piers after the completion of the construction works of the West Rail Line in mid-2003. The consultancy firm which was responsible for the design and the independent consultancy firm which was responsible for scrutinising the design at that time had reviewed the design respectively and concluded that the minor cracks would not affect the overall structure. In 2005, KCRC appointed another independent consultancy firm to review the design of the 24 viaduct piers. The appointed consultancy firm recommended that strengthening works to one viaduct pier and suitable repair works for the remaining 23 should be carried out to ensure the durability of the viaduct piers. KCRC had followed the recommendations and completed the strengthening and repair works in 2005 and 2006 respectively.

(c) According to MTRCL, the above visual inspections and hammer tapping tests have been regularly conducted to examine the building structures of the West Rail Line (including the viaduct piers) and monitor the condition of the cracks. During the annual visual inspection of the structures of the viaducts of the West Rail Line in March 2010, out of the 409 viaduct piers, 16 were found to have minor surface cracks that would require repair. However, no water seepage was observed at the concerned viaduct piers. As these are minor surface cracks, there was no adverse impact on the overall structure of the viaduct piers. The concerned repair works were commenced in August 2010 and are expected to be completed in the second quarter of 2011. MTRCL will continue to monitor the condition of the cracks to ensure railway safety.

MTRCL understands the public concern of the matter and has engaged an independent consultancy firm to conduct another detailed structural assessment of the condition of the cracks. The assessment report will be submitted to BD, which will determine whether any follow-up actions are required after examining the report.

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